29 April 2021

16th Annual VCWG Meeting
2021 Virtual Event

Session 5: Expanding the Vector Control Toolbox workstream

Workstream Co-Leads: Sheila Barasa and Allison Tatarsky
1. Welcome and scene setting

2. Theme: Innovations in vector control and surveillance – bite prevention

3. Theme: Larval source management

4. Theme: Human behavior, human centered design, and vector control

5. Paradigm updates

6. Discussion and wrap up
Session reminders

- Please put questions in the chat, noting “Question @ [name of speaker]"

- There will be a Q&A session after every 3-4 presentations

- Speakers have 10 minutes maximum; 8 minutes is even better!

- English and French translation is available, as well as Spanish for the human behavior session

- All slides are available on the Attendee Hub

- Thank you for your participation and collaboration!
Transitioning from the past
Activities of previous workstreams are now integrated under new ones

- LLIN Priorities
- IRS/IRM priorities
- Larval Source Management
- New Tools, New Challenges
- IVM Evidence and Capacity Building
- VBDs and the Built Environment

Enhancing the Impact of Core Interventions
Expanding the Vector Control Toolbox
Implementing the Global Vector Control Response
Livestock endectocides, topical insecticides, spatial repellents

Spatial repellents, space spraying, topical repellents, human endectocides, insecticide-treated hammocks

LLINs, PBO LLINs, IRS, mosquito-proofed housing, spatial repellents

LSM, including larviciding, source reduction, biological control

Mating swarm spraying

Encountering livestock

Encountering human outdoors

Encountering human indoors

Bloodmeal acquired

Resting

Sugar feeding

Emergence

Oviposition site seeking

Ovipositing

Adapted from Kiware et al. 2017
The role of vector control is critical in reaching our goal of eradication by 2040, supported by wider solutions across vaccines, drugs and gene drives.
New themes as a result of feedback from workstream members

• Reviewing existing tools/approaches but with improved methods or innovation around delivery, program implementation, and evaluation; examples include:
  • LSM (integrated during restructuring),
  • Space spray and targeted swarm spraying, and
  • Outdoor residual spraying, among others
• Emphasizing human behavior research in vector control research and incorporating human centered design in the development of new vector control tools
• Supporting Ifakara Health Institute Master Classes on vector biology and control
• Including more voices from country programs
# Workstream themes and focus outputs

<table>
<thead>
<tr>
<th>Focus Output 1</th>
<th>Focus Output 2</th>
<th>Focus Output 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify tool gaps or capacity needs &amp; steer research priorities</td>
<td>Policy clarification &amp; evaluation pathways</td>
<td>Implementation/Operational scale-up support/Training and capacity building initiatives</td>
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</tbody>
</table>

## Workstream 2: Expanding the Vector Control Toolbox

### Themes:
- Larval Source Management
- Innovations in vector control and surveillance
- Anthropology and human centred design in the context of vector control

### Co-Leads:
Allison Tatarsky  
Sheila Barasa

- Review technology for LSM e.g., GIS, satellite imagery, use of drones, new application technology, etc.
- Develop and maintain an inventory of new vector control tools and approaches including repellents, endectocides, ATSBs, SIT, genetic control, etc.

- Gather evidence for environmental management including habitat modification and manipulation as priority interventions in LSM and promote within the Multi Sectoral Working Group (MSWG)
- Develop framework for, and actively track and share, updates on new vector control paradigm roadmaps
- Share VCAG updates on new paradigms as part of paradigm roadmap tracking

- Review operational LSM in national malaria programmes and collate evidence of impact, as well as training and technical support needs
- Elevate national malaria program operational research questions for vector control beyond LLINs and IRS
- Highlight innovation and opportunities to incorporate anthropological methods and human centred design into the development, evaluation, and scale up of vector control tools
What is MESA Track?

MESA Track ([www.mesamalaria.org/mesa-track](http://www.mesamalaria.org/mesa-track)) is an open and regularly-updated database of ongoing (and completed) malaria research.

**Contributions to paradigm roadmap tracking**

**All Projects**

<table>
<thead>
<tr>
<th>TOTAL PROJECTS</th>
<th>TOTAL FUNDING</th>
<th>PROJECT SITES</th>
<th>PRINCIPAL INSTITUTIONS</th>
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</thead>
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<td>158 active</td>
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**Themes**

- Response Strategies
- Challenges in Elimination
- Health Systems & Operations
- Basic Science
- Epidemiology

**Funding Sources**

- National Institute of Allergy...
- Bill & Melinda Gates Foundation...
- Wellcome Trust, UK
- U.S. President's Malaria Initiative...
- Medical Research Council (...

**Principal Institutions**

- Ifakara Health Institute (IHI)...
- Liverpool School of Tropical...
- Barcelona Institute for Glob...
- Harvard T.H. Chan School of...
- Malaria Consortium, UK
Project Sites
### Overview of vector-based strategies in MESA Track

<table>
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<tr>
<th>TOTAL PROJECTS</th>
<th>TOTAL FUNDING</th>
<th>PROJECT SITES</th>
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#### Funding Sources *

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<tr>
<td>U.S. President's Malaria Initiative</td>
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<td>Wellcome Trust, UK</td>
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<td>National Institute of Allergy and I...</td>
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<td>Grand Challenges Canada</td>
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<td>Department for International Dev...</td>
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<tr>
<td>IVCC, UK</td>
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<td>United States Agency for Interna...</td>
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<td>European Commission</td>
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#### Principal Institutions *

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<td>Ifakara Health Institute (IHI), Tanzania</td>
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<td>RBM Vector Control Working Group</td>
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<td>Centers for Disease Control and Prevention</td>
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<td>Liverpool School of Tropical Medicine</td>
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<td>Harvard T.H. Chan School of Public Health</td>
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<td>London School of Hygiene &amp; Tropical Medicine</td>
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<td>Manhiça Health Research Centre</td>
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<tr>
<td>University of Notre Dame, USA</td>
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*# of projects, top 10
## Larviciding

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<th>Research Area</th>
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<td>Testing combination strategies</td>
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<tr>
<td>Cost-effectiveness</td>
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<td>Mapping</td>
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<td>Housing modification or I...</td>
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<tr>
<td>Product R&amp;D</td>
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### Project Timeline

Year: 2001 to 2025

[Download](#)
Landscaping of vector control tools under investigation

http://www.mesamalaria.org/mesa-track/deep-dives
Contact us!

MESA Track can serve to facilitate review of data as it emerges, to evaluate the overall funding and activity window, and to facilitate contact with Principal Investigators for queries into design.

Know more: www.mesamalaria.org/mesa-track

Watch a short introductory video: http://www.mesamalaria.org/resource-hub/what-mesa-track

Submit your research at mesa@isglobal.org
Agenda Session 5: Expanding the Vector Control Toolbox

1. Welcome and scene setting
2. Theme: Innovations in vector control and surveillance – bite prevention
3. Theme: Larval source management
4. Theme: Human behavior, human centered design, and vector control
5. Paradigm updates
6. Discussion and wrap up
Task teams

1. Human behavior, human centered design, and vector control
2. Larval source management
   1. LSM technology i.e. GIS, satellite, use of drones, new application technology etc.
   2. Evidence on habitat modification and manipulation
   3. Operational LSM and impact at the NMCP level
3. Vector control paradigms
   1. ATSBs
   2. Genetic control
   3. Spatial repellents
   4. Endectocides
   5. Housing
4. Tracking national malaria program operational research agendas
5. Vector control product inventory – IVCC
6. VCAG updates – WHO VCAG
Role of task teams

1. Varied responsibilities depending on the team

2. Human behavior – identify partners in the space and priorities/projects for the workstream work plan

3. Vector control paradigms – provide updates for roadmap tracking; workstream co-leads to develop framework for tracking

4. Others TBD as they are formed and gaps are identified
Workstream communication

1. Preferences?

2. Semi-annual newsletters – updates from workstream co-leads and task teams

3. Ad hoc calls with task teams

4. Webinars?